



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C3 BYPASS RATIO: 6.7
 UNIQUE ID NUMBER: 1CM011 PRESSURE RATIO (π_{co}): 29.9
 COMBUSTOR: RATED THRUST (F_{oo}) (kN): 144.6
 ENGINE TYPE: MTF

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	10.8	54.6	62.4	15.2
AS % OF ORIGINAL LIMIT	55.0	46.3	62.5	71.0
AS % OF CAEP/2 LIMIT (NO _x)			78.1	
AS % OF CAEP/4 LIMIT (NO _x)			93.3	
AS % OF CAEP/6 LIMIT (NO _x)			106.0	
AS % OF CAEP/8 LIMIT (NO _x)			124.9	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	1.373	0.01	0.98	34.70	11.8
CLIMB OUT	85	2.2	1.131	0.01	0.82	27.10	9.1
APPROACH	30	4.0	0.370	0.07	1.57	10.40	1.0
IDLE	7	26.0	0.120	5.35	32.60	4.26	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			483	1012	6436	7770	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				7.0	44.5	53.8	11.8
SIGMA (D _p /F _{oo} in g/kN, or SN)				0.5	1.7	0.2	1.6
RANGE (D _p /F _{oo} in g/kN, or SN)				6.45-7.41	42.7-46.1	53.5-53.9	9.9-12.8

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-98.1
TEMPERATURE (K)	286-295
ABS HUMIDITY (kg/kg)	0.0061-0.0074

FUEL

SPEC	Jet A
H/C	1.95
AROM (%)	17.3

MANUFACTURER: CFM International
 TEST ORGANIZATION: CFM56 Evaluation Engineering
 TEST LOCATION: PTO Site IVD
 TEST DATES: 04/06/1991-05/06/1991

REMARKS

1. Ref GE Report R91AEB471.
2. Engine S/N 740-105.
3. Core engine Smoke Numbers reported

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)